



## Concrete Cylinder Test Report

### PROJECT INFO - DRAFT ONLY

ASTM C31, ASTM C39, AASHTO T23, AASHTO T22, ASTM C172, AASHTO R60

|                      |                             |                   |                                 |
|----------------------|-----------------------------|-------------------|---------------------------------|
| Client               | AECOM                       | Date Of Placement | 07/20/2021                      |
| Project Name         | PW-7023 Conner Improvements | Specimen Type     | Concrete Cylinder               |
| Project Number       | 2019057D-002                | Contractor        | Century Cement                  |
| Project Location     | Detroit, MI                 | Concrete Supplier | Hercules Material Holdings, LLC |
| MDOT Job Number      |                             | Field Tested By   | Nick Suchy                      |
| MDOT Control Section |                             | Date Issued       | 07/20/2021                      |

|                          |                       |
|--------------------------|-----------------------|
| Results Recorded In      | English Units         |
| Supplier Mix Description | City of Detroit P1 MR |

### DESIGN PARAMETER

|                                   |                |                |      |                                    |  |
|-----------------------------------|----------------|----------------|------|------------------------------------|--|
| Mix Design Number                 | 0946 P1-DETM-1 |                |      |                                    |  |
| Design Compressive Strength (psi) | 3500           |                |      |                                    |  |
| Air (% Max)                       | 8.5            | Slump (in Max) | 6.00 | Unit Weight (lbs/ft <sup>3</sup> ) |  |
| Air (% Min)                       | 5.5            | Slump (in Min) | 3.00 |                                    |  |

### TESTING DATA

|        |       |                                                                              |                                                                  |
|--------|-------|------------------------------------------------------------------------------|------------------------------------------------------------------|
| Placed | 60.00 | +/- yds <sup>3</sup> /ft <sup>3</sup> of concrete at the following location: | Raised islands/curbs/sidewalks along Conner at various locations |
|--------|-------|------------------------------------------------------------------------------|------------------------------------------------------------------|

| Time Tested | Truck Num | Slump ASTM C143 (in) | Air ASTM C231 or C173 (%) | Unit Weight ASTM C138 (lbs/ft <sup>3</sup> ) | Air Temp (°F) | Mix Temp ASTM C1064 (°F) | Concrete Cylinder Set | Water Added (gal) | Cumulative Concrete Placed At Test (yds <sup>3</sup> /ft <sup>3</sup> ) |
|-------------|-----------|----------------------|---------------------------|----------------------------------------------|---------------|--------------------------|-----------------------|-------------------|-------------------------------------------------------------------------|
| 10:00 AM    | 321       | 4.50                 | 6.50                      | 0.0                                          | 77            | 80                       | 1                     | 0                 | 11                                                                      |

### MATERIAL DATA

| Concrete Cylinder Set | Concrete Cylinder Num | Diameter (in) | X-Sec Area (in <sup>2</sup> ) | Weight (lbs) | Fracture Type | Capping Process | Age Of Concrete Cylinder (Days) | Date Tested | Total Load At Failure (lbs) | Cumulative Strength (psi/mpa) |
|-----------------------|-----------------------|---------------|-------------------------------|--------------|---------------|-----------------|---------------------------------|-------------|-----------------------------|-------------------------------|
| 1                     | 84711                 |               |                               |              |               |                 | 28                              | 08/17/2021  |                             |                               |
| 1                     | 84712                 |               |                               |              |               |                 | 28                              | 08/17/2021  |                             |                               |

**Average 28 Day Compressive Strength (psi): 0**

\*Cylinders tested with Unbonded Caps followed ASTM C1231, cylinders tested with Bonded Caps followed ASTM C617.

\*All Air Content % tests were performed per C231 unless otherwise noted in the remarks.

\*Inspector was notified of non-conformance items, if any.

\*Average Compressive Strength results did not meet project specifications.

|                      |            |
|----------------------|------------|
| Remarks:             |            |
| Results Reported To: |            |
| Report Approved By:  | Nick Suchy |



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| Project Location         | Detroit, MI                 | Concrete Supplier | Hercules Material Holdings, LLC |
| MDOT Job Number          |                             | Field Tested By   | Nick Suchy                      |
| MDOT Control Section     |                             | Date Issued       | 07/20/2021                      |
| Results Recorded In      | English Units               |                   |                                 |
| Supplier Mix Description | City of Detroit P1 MR       |                   |                                 |

### DESIGN PARAMETER

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|-----------------------------------|----------------|----------------|------|------------------------------------|
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| Design Compressive Strength (psi) | 3500           |                |      |                                    |
| Air (% Max)                       | 8.5            | Slump (in Max) | 6.00 | Unit Weight (lbs/ft <sup>3</sup> ) |
| Air (% Min)                       | 5.5            | Slump (in Min) | 3.00 |                                    |

### TESTING DATA

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|--------|-------|------------------------------------------------------------------------------|------------------------------------------------------------------|

| Time Tested | Truck Num | Slump ASTM C143 (in) | Air ASTM C231 or C173 (%) | Unit Weight ASTM C138 (lbs/ft <sup>3</sup> ) | Air Temp (°F) | Mix Temp ASTM C1064 (°F) | Concrete Cylinder Set | Water Added (gal) | Cumulative Concrete Placed At Test (yds <sup>3</sup> /ft <sup>3</sup> ) |
|-------------|-----------|----------------------|---------------------------|----------------------------------------------|---------------|--------------------------|-----------------------|-------------------|-------------------------------------------------------------------------|
| 3:30 PM     | 465       | 5.00                 | 6.20                      | 0.0                                          | 80            | 82                       | 2                     | 0                 | 60                                                                      |

### MATERIAL DATA

| Concrete Cylinder Set | Concrete Cylinder Num | Diameter (in) | X-Sec Area (in <sup>2</sup> ) | Weight (lbs) | Fracture Type | Capping Process | Age Of Concrete Cylinder (Days) | Date Tested | Total Load At Failure (lbs) | Cumulative Strength (psi/mpa) |
|-----------------------|-----------------------|---------------|-------------------------------|--------------|---------------|-----------------|---------------------------------|-------------|-----------------------------|-------------------------------|
| 2                     | 84713                 |               |                               |              |               |                 | 28                              | 08/17/2021  |                             |                               |
| 2                     | 84714                 |               |                               |              |               |                 | 28                              | 08/17/2021  |                             |                               |

**Average 28 Day Compressive Strength (psi): 0**

\*Cylinders tested with Unbonded Caps followed ASTM C1231, cylinders tested with Bonded Caps followed ASTM C617.

\*All Air Content % tests were performed per C231 unless otherwise noted in the remarks.

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